Haemorrhagic bowel syndrome associated with ingestion of spoiled concentrate in two Brown Swiss cows

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We wish to report an observation relating to the aetiology of haemorrhagic bowel syndrome (HBS). This is is a serious disorder characterised by haemorrhage and secondary ileus of the small intestines in cattle. *Clostridium perfringens* type A (CPA) is thought to play an important role in the aetiology of this disorder (Elhafany et al. 2013) and was isolated from the faeces of 17 of 22 cows with HBS (Dennison et al. 2002); genotyping of ten of these samples yielded α-toxin-producing CPA (α-CPA) in five cows and α-CPA and β2-toxin-producing CPA (β2-CPA) in the remaining five. Another study found α-CPA in the intestinal contents of seven cows with HBS (Abutarbush and Radostits 2005), and analysis of tissue samples yielded α-CPA in three cows and β2-CPA in four other cows with HBS (Ceci et al. 2006). Although there appears to be a causative link between CPA and HBS, experimental studies in which the proximal jejunum was inoculated with CPA failed to cause HBS in cows (Ewoldt and Anderson 2005). To our knowledge, studies on ingestion of feed contaminated with CPA have not been carried out, which prompted the present letter. Two Brown Swiss cows were recently referred to our clinic because of HBS that occurred after ingesting wet, clumped, foul-smelling, spoiled concentrate for several days. Analysis of the feed (miprolab GmbH, Göttingen, Germany) showed α-CPA, yeast (8.32×10^7/g), fungi (9.2×10^6/g) and non-specific bacterial flora. The timeline between ingestion of the spoiled feed and occurrence of HBS indicates that α-CPA, possibly in association with other degradation products of the feed, played a role in the aetiology of HBS in these cows.

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